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REMARKS

Claim 3 has been previous cancelled. The claims remaining in the application are _____

Rejection Under 35 U.S.C. § 103

The Office Action has rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admission as prior art in view of Ito et al. (U.S. 6,379,983) and Barry et al. (U.S. 5,309,246). This rejection is respectfully traversed.

The Office Action objects to present invention in view of Ito et al. and Barry et al. It is true that in the prior art, shown in Figure 1, two RIPs each provide binary data to each of the printing press and the color proofer. The prior art does teach using two RIPs with different dot gain curves. The prior art also teaches screening twice with one RIP using two different dot gain curves. This binary data is not the same however, as each set of binary data has been modified with a dot gain curve dependent upon the final printing device. The prior art requires the original artwork in order to facilitate screening it with a second dot gain curve for proofing.

In Figure 2, Ito shows an alternate method of applying dot gain to the proof to apply a color profile to an image prior to the raster image processor (RIP). This would require separate color profiles for the proof and plate, and would be applied prior to screening the binary data.

The present invention uses one RIP with one dot gain curve to generate a set of binary data, then the invention modifies the binary data, which has been processed by one original RIP, to change the dot gain in order to create a proof. The prior art cited by the examiner does not accomplish this. The prior art does not teach modifying a binary bitmap screened once, with a dot gain curve for one printing device, to achieve the correct dot gain on a second printing device with the first binary bitmap.

Ito describes compensating the color of the proofer. See Col. 11, lines 12-58 through Col. 12, lines 1-19). Ito describes printing a test target, measuring the test target, then compensating the original and reprinting to match the color. This method of compensation will re-rip or re-screen the original image after adjusting its color. The original artwork is required to create the proof, Col.

10, line 65, refers to preparing the TIFF data for ink jet printer output with the RIP herein, and Col. 11, line 12 refers to the "profile of compensating the difference between the color reproduction regions". Ito does not teach how to apply the profile to the TIFF data, either prior to the RIP or applying it to the TIFF image in Photoshop prior to the RIP. If Ito is applying the profile after the RIP he does not state how to do so. If Ito is applying a color profile after the RIP as per his Fig 2, then the image out of Ito's RIP is not binary, rather it must contain color information such that there is more than two levels per pixel. The input used to make the proof is a multi-level per pixel image. Ito specifies the content of the test target as having 239 color chips, Col. 11, line 12-14. This implies that the TIFF file to which the profile is applied has multiple levels per pixel. Changing colors or performing selective color edit may be performed within Photoshop. Photoshop may also be used to apply a profile with a RIP prior to screening. Applicant is not aware of any data method of applying a profile to screened binary bitmap data. The invention describes how to adjust the dot gain of a screened binary bitmap, but it does not describe how to apply a color profile. Applying a profile to change one on color to a different on color does not make a lot of sense. Ito implies that he is correcting many colors, so the image that the profile is working with may not be a binary bitmap with binary pixels.

The Office Action cites Barry et al. (Figure 2, element 205: IMAGE DATA) sent to dot-gain processor (Figure 2, element 200) for conditioning the binary image data with DOT GAIN elements (232, 234, 236, 238) to introduce a predetermined level of dot-gain before transmitted to a color proofer (Figures 5A-5B, element 500: DIRECT DIGITAL COLOR PROOFING (DDCP) SYSTEM). However Barry et al. teaches that after applying dot-size lookup tables the resulting contone values are electronically screened, (Col. 4, lines 40-45), to yield appropriate binary bit-mapped values. Furthermore, (Col. 4, lines 51-57), specifies that the dot size table preferably exists within a raster image processor (RIP) which accepts incoming contone files. These contone files are the original artwork and are not the same as the binary halftone files created from a first rip with a first dot-gain curve as specified in our invention. Thus Barry et al. does not teach one how to modify binary halftone data to modify the dot-gain nor create a proof. The contone files consist of pixels that have more than two levels per pixel. The input used to proof is not a binary bitmap file.

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The Office Action has rejected claim 2 under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admission as prior art in view of Ito et al. (U.S. 6,378,983) and Barry et al. (U.S. 5,309,246), and further in view of Dohnomae (U.S. 6,072,588). This rejection is respectfully traversed.

The Office Action cites Dohnomae as disclosing a method of an apparatus for generating proof in which an image bit map data (binary digital data) used to generate a proof for a printed color document is processed (convoluted) with a filtering process for cutting off a spatial frequency response spatial filtering, Col. 4, lines 20-32. Dohnomae, Figure 1, shows an image being read, S1, to create gradation image data, 1a, and converted into colors, S2, to create halftone-dot area percentage data, aj, which is then further processed with the step of comparing threshold with data, S10, to create the color proof, CPb. The step of comparing threshold with data S10 is a screening operation, normally performed within a raster image processor. The input to this step is the original artwork converted into halftone-dot area percentage data. The input is not a binary bitmap file. Dohnomae also shows creating of the bit map data, bj, using step compare threshold with data, S5, prior to the process-plate film, 16, step and creation of the print, P. The present invention operates directly on the binary bitmap data, bj, and does not use the original artwork 1a, nor the halftone-dot area percentage data, aj. Dohnomae does not teach how to create a color proof from the original binary bitmap data, bj, used to create the printed color document, P. Dohnomae teaches to screen the original image twice, using two threshold matrixes, 14, 24. Dohnomae's halftone-dot area percentage data is multi-level. Each pixel contains a level between 0 and 100%. The input to the proofing data stream is not a binary, one of two, level pixel.

CONCLUSION

None of the prior art cited in the Office Action teaches how to modify screened halftone binary bitmaps to adjust dot gain. All of the prior art applies dot gain or color profiles to original continuous tone or multilevel pixel data. Then the modified data requires screening in order to image on a binary device.

Dependent claims not specifically addressed add additional limitations to the independent claims, which have been distinguished from the prior art and are therefore also patentable.

In conclusion, none of the prior art cited by the Office Action discloses the limitations of the claims of the present invention, either individually or in combination. Therefore, it is believed that the claims are allowable.

If the Examiner is of the opinion that additional modifications to the claims are necessary to place the application in condition for allowance, he is invited to contact Applicant's attorney at the number listed below for a telephone interview and Examiner's amendment.

Respectfully submitted,

Draft

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.